

WEATHER GAUGERS.

THERMOMETERS ARE MANUFACTURED WITH GREAT CARE.

They Are Made Very Accurately, and, Though Quickly, Pass Through Nineteen Pairs of Hands—The Different Processes of the Instruments.

The making of a thermometer may be either a delicate scientific operation, or one of the simplest tasks of the skilled mechanic, according to the sort of thermometer made. With the extremely sensitive and minutely accurate instruments designed for scientific uses great care is taken, and they are kept in stock for months, sometimes for years, to be compared and recompared with instruments that are known to be trustworthy. But so much time cannot be spent over the comparatively cheap thermometers in common use, and these are made rapidly, though always carefully. The method of manufacture has been so systematized within a few years that the very cheapest thermometer should not vary more than a fraction of a degree from the correct point.

Whether the thermometer is to be charged with mercury or alcohol; whether it is to be mounted in a frame of wood, pressed tin or brass, the process is substantially the same. Mercury is generally used for scientific instruments, but most makers prefer alcohol, because it is cheaper. The alcohol is colored red with an aniline dye which does not fade.

The thermometer maker buys his glass tubes in long strips from the glass factories. The glassblower on the premises cuts these tubes to the proper lengths, and with his gas jet and blowpipe makes the bulb on the lower end. The bulbs are then filled with colored alcohol, and the tubes stand for twenty-four hours.

On the following day another workman holds each bulb in turn over a gas jet until the colored fluid, by its expansion, entirely fills the tube. It then goes back into the hands of the glassblower. He closes the upper end and turns the tip backward to make the little glass hook which will help keep the tube in place in the frame.

MARKING THE TUBES.
The tubes now rest until some hundreds of them, perhaps thousands, are ready. Then the process of gauging begins. There are no marks whatever on the tube, and the first guide mark to be made is the freezing point, 32 degs. Fahrenheit. This is found by plunging the bulb into melting snow. No other thermometer is needed for a guide, for melting snow gives invariably the exact freezing point. This is an unflinching fact for any thermometer whose accuracy may be suspected. But melting snow is not always to be had, and a little machine resembling a sausage grinder is brought into use. This machine shaves a block of ice into particles, which answer the purpose as well as snow.

When the bulbs have been long enough in the melting snow a workman takes them one by one from their icy bath, seizing each so that his thumb nail marks the exact spot to which the fluid has fallen. Here he makes a scarcely perceptible mark upon the glass with a fine file, and goes on to the next.

The tubes, with the freezing point marked on each, now go into the hands of another workman, who plunges them, bulb down, into a vessel filled with water kept constantly at 64 degs. A standard thermometer attached to the inside of this vessel shows that the temperature of the water is correct. Another tiny file scratch is put at 64.

Then a third workman plunges the bulbs into another vessel of water kept constantly at 96. This is marked like the others, and the tube is now supplied with these guide marks, each 32 degs. from the next. A small tab is then attached to each tube, on which its number is written—for, owing to unavoidable variations in the bore of the tube, each one varies slightly from the others.

MARKING THE CASES.
With its individuality thus established the tube goes into the hands of a marker, who fits its bulb and hook into the frame it is to occupy, and makes slight scratches on the frame corresponding to the 32, 64 and 96 degree marks on the tube. The frame has a number corresponding with the number of the tube, and the tube is laid away in a rack amid thousands.

The frame, whether it be wood, tin or brass, goes to the gauging room, where it is laid upon a steeply sloping table, exactly in the position marked for a thermometer of that size. The 32, 64 and 96 degree marks must correspond with the marks upon the table. If they do not, the error in marking is detected and the frame is sent back for correction.

A long, straight bar of wood or metal extends diagonally across the table from the lower right hand corner to the upper left hand corner. On the right this works upon a pivot and on the left it rests in a ratchet, which lets it ascend or descend only one notch at a time. That notch marks the exact distance of 2 degs. With the three scratches already made for a basis the marker could hardly make a mistake in the degrees if he tried.

The marks made upon the frame or case are all made by hand with a geometric pen and India ink if the frame is of wood, and with steel dies if it is of metal. The tube bearing the corresponding number is next attached to the frame, and the thermometer is ready for the market without further testing. Some makers use only two guide marks, but the best makers use three.

In the process of manufacture the ordinary thermometer goes through the hands of nineteen workmen, half of whom are often girls and women. Some of the larger concerns in and near New York produce several hundred thousand instruments annually, and on every one of them the purchaser may see, if he looks closely, the tiny file scratch on the glass at 32, 64 and 96 degree marks—or somewhere near them; as different makers use different points.—New York Sun.

A Clever Collie.
T. Sidney Cooper, the English animal painter, says that he often made valuable studies in Cumberland at places where Scotch drovers halted with their cattle for the night. On such occasions he often had a chance to see illustrations of an animal's intelligence as well as of its physical perfection.

One day when there was a pouring rain a man consented to sit for me at the inn where I was staying. He brought his collie with him and both of them were dripping wet, so he put off his plaid and laid it on the floor by the dog.

I made a very successful sketch of the man, but before I had finished it the dog grew fidgety with the wet plaid, and his master said, "Tak' it awa' mon; tak' it awa'!"

The dog took the end of it between his teeth and dragged it out of the room. After I had finished the drover's portrait I asked him if he thought his dog would be quiet for a time, as I wished to sketch him.

"Oh, yes, mon," he answered, "he'll do anything I say to him. Watch! Watch!" he called, and then "whistled" for him, as the Scotch say.

As the dog did not appear we went together to look for him, and found him sitting before the kitchen fire with the end of the plaid in his mouth, holding it up to dry. I expressed my admiration of his intelligence, and the master replied:

"Ah, he's a canny creature, sir! He knows a mony things, does that dog, sir. But come awa', mon; the gentleman wants to mak' your picture."

So we returned to my room, and the handsome collie sat for his portrait.—Chicago News.

Mrs. Astor's Lingerie.

The cedar chests in the Astor mansion which contain the superb underwear of the queenly Mrs. Astor are perfect household ornaments in themselves, with deep engraved gold lockers with the initial "A" wrought in finest carving upon its surface. Inside the chest, neatly folded in webs of choicest linen, are the dainty garments of society's queen. Each week, as they leave the ironing sheet, they are laid within the chests to await the bidding of the owner. Every article of this superb wardrobe is stitched by hand, and no materials but the purest and finest of linens and cambrics are used. They are all elaborately trimmed with lovely point and duchesse laces, and the initial "A" is daintily embroidered on every article.

In the same orderly manner Mrs. Astor arranges her footwear, which is equally as exquisite; only the cedar chests have apartments molded in which each slipper and boot fits perfectly and keeps its shape.

By the way, Mrs. Astor has a very pretty foot for an old lady. Her ankles are small and shapely and her toes are extremely narrow. Her daughters, Mrs. Coleman Drayton and Mrs. Orme Wilson, have neither of them such pretty feet, and they are eternally envying their mother her beautiful feet and adornments.—New York Cor. Pittsburg Dispatch.

Charles Dickens and the Dog.
"Every one remembers Dan Brossman, the old sexton of St. Patrick's," said Mr. H. A. Preston. "Dan had a little dog, a homely cur, with the most plebeian blood in his veins, but a remarkably clever animal. He would follow the sexton everywhere, and the only way to restrain him was behind closed doors. One night about twenty-three years ago Charles Dickens gave a reading in Carroll hall. Dan was on hand to look after the hall, rigged in a dress coat out of deference to the great occasion. He had forgotten the dog, but the dog was on hand.

"In one of his readings the great novelist came to this passage, 'Bow-wow-wow,' barked the little dog. He gave it a realistic rendering, and almost with his words came a responsive and lifelike echo, 'Bow-wow-wow.' There stood Dan's little yellow cur, directly in front of Chief Justice Chase, and before the great men of the nation, mocking their guest. Dan dragged the dog out, terribly mortified, but Dickens said it was one of the finest compliments he ever received."—Washington Post.

No Excuse for Late Hours.
There would seem to be no excuse for the late hours which society prescribes for its ceremonies. Late evening parties for children are admitted to be injurious. But we are all children or ought to be, so far as the laws of health are concerned. We do not, as many think, by age earn a right to violate the laws of health. Nature takes pay for it in one way or another.

One difficulty at the foundation of our social life is that we do not admit amusements as necessary to our lives. We do not set apart time for them, but insist, if forced into them by fashion, upon taking them out of time that ought to be given to rest of mind and body. The day must all be given to business, up to its latest available hour, and then we take from hours that should be given to sleep time for social duties.—New York Ledger.

Glacier Ice.
Glacier ice is not like the solid blue ice on the surface of the water, but consists of granules joined together by an intricate network of capillary water filled fissures. In exposed sections and upon the surface of the ice can be observed "veined" or "banded" structure veins of a denser blue color alternating with those of a lighter shade containing air bubbles. The cause of this peculiar structure has been the subject of much theorizing among investigators, but hitherto the greatest authorities consider that the explanation of the phenomenon is yet wanting.—Goldthwaite's Geographical Magazine.

Which She Was.
Neighbor (on the street)—Good morning, my little dear. I never can tell you and your sister apart. Which of the twins are you?
Little Dear—I'm the one waa's out walkin.—Good News.



Mr. S. G. Derry

Of Providence, R. I.,
Widely known as proprietor of Derry's Water-proof Harness Oil, tells below of his terrible sufferings from Eczema and his cure by

HOOD'S Sarsaparilla

"Gentlemen: Fifteen years ago I had an attack of inflammatory rheumatism, which was followed by eczema or salt rheum, breaking out on my right leg. The humor spread all over my legs, back and arms.

A Foul Mass of Sores,
swollen and itching terribly, causing intense pain if the skin was touched by scratching and discharging constantly. It is impossible to describe my suffering in those years of agony and torture. I spent

Thousands of Dollars
in futile efforts to get well, and was discouraged and ready to die. At this time I was unable to lie down in bed, had to sit up all the time, and was unable to walk without crutches. I have to hold my arms away from my body, and had to have my wife twice a day, legs bandaged by my faithful wife twice a day. Finally a friend who was visiting at our house, urged me to take Hood's Sarsaparilla. I began by taking half a teaspoonful. My

Stomach Was All Out of Order
But the medicine soon corrected this, and in six weeks I could see a change in the condition of the humor which nearly covered my body. It was driven to the surface by the Sarsaparilla, the sores soon healed, and the scales fell off. I was soon able to give up bandages and crutches, and a happy man I was. I had been taking Hood's Sarsaparilla for seven months, and since that time, nearly two years, I have worn no bandages whatever and my legs and arms are sound and well.

The Delight
of myself and wife at my recovery it is impossible to tell. To all my business friends in Boston and over the country, I recommend

Hood's Sarsaparilla
from personal experience." S. G. DERRY, 45 Bradford street, Providence, R. I.
If you are Bilious, take Hood's Pills.

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The Consol Policy recently announced by THE MUTUAL LIFE INSURANCE COMPANY OF NEW YORK combines MORE ADVANTAGES WITH FEWER RESTRICTIONS than any Investment Insurance contract ever offered. It consolidates

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JONATHAN W. POTTER, President.

JOSEPH K. OAKES, Vice-President.

Office: 7 Broad St., near Bloomfield Ave.

Hours, 9 A. M. to 4 P. M. Also, Mondays from 7 to 9 P. M.

An abstract of the Annual Report made January 1, 1892, to the Board of Directors of the State of New Jersey, and filed in the Department of the Secretary of State in pursuance of law.

STATEMENT JANUARY 1, 1892.

Assets and Liabilities.

Bonds and mortgages..... \$158,400 00

Real Estate..... 3,000 00

U. S. and other bonds..... 31,284 00

Interest due and accrued..... 4,940 08

Office furniture, etc..... 500 00

Cash in bank and office..... 19,955 87

LIABILITIES..... \$217,899 60

Due depositors (including interest)..... 17,531 66

Surplus..... \$217,899 60

Interest is credited to depositors on the first days of January and July in each year for the three and six months then ending. Deposits made on or before the first business day in January, April, July, and October, bear interest from the first day of the month. All interest when credited at once becomes principal and bears interest accordingly.

JOSEPH H. DODD, Treasurer.

A. P. CAMPBELL,

Carpenter and Builder.

SHOP:

518 Bloomfield Ave.

Estimates Cheerfully Furnished.

Jobbing Promptly Attended to.

John Rassbach & Son,

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Cor. Midland and Macile Aves.

THE AMERICAN HOUSE,

BLOOMFIELD, N. J.



At the Centre, three minutes' walk from the D., L. & W. R. R. station.

All kinds of Bottled Beer for Family Use delivered.

Special attention given to Transient Guests.

W. R. COURTER, Proprietor.

RESTAURANT,

Separate Dining-Room for Ladies.

Meals Served at all Hours, Day or Night.

FIDELITY TITLE AND DEPOSIT COMPANY,

781 Broad Street, Newark.

CAPITAL..... \$250,000

DEPOSITS..... 270,000

Receives for safe keeping Securities, Plate, Papers and other valuables and rents Safe Deposit Boxes, in its fire and burglar proof vaults, at moderate rates.

GUARANTEES THE TITLE TO REAL ESTATE in Newark and Essex County against fraud, accident and errors, at fixed charges, and will defend at its own expense any action brought against the holder of one of its own policies by reason of any error in their titles.

Deposits received and interest allowed on daily balances subject to check at sight, and a higher rate of interest is allowed to depositors who agree to give sixty days' notice of their intention to draw against their deposit.

NEW BAKERY.

FRANK C. BUCHER,

Fancy Bread, Cake & Pie Bakery,

Cor. Linden and Glenwood Aves.

Louis Johnson,

House & Fresco Painter.

KALSOMINING,

PAPER-HANGING,

GRAINING.

Residence: 315 Franklin Street, BLOOMFIELD.

Orders by mail will receive prompt attention.

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Have had 15 years' experience in planning and construction of suburban and city dwellings, and will give my patrons the benefit of my long experience. Business solicited in all parts of the country.

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THEODORE CADMUS & SON,

the old and reliable builders,

are prepared to give estimates on either new work or remodeling.

Jobbing is also our specialty.

Our shop is on Farrand St., near Bloomfield Ave.

Residence, 104 Thomas St.

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Jobbing promptly attended to. Estimates cheerfully given.

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DEALER IN

Pine, Spruce and Hemlock Lumber

and Masons' Materials.

LATH, SHINGLES, BRICK, LIME,

CEMENT, PLASTER, Etc.

Yards on Spruce Street,

At crossing of N. Y. and G. L. R. R.

FRED. HETZEL,

Artesian Well Driller

AND CONTRACTOR,

22 Race Street, Bloomfield.

ORGANIZED JULY, 1889.

THOMAS OAKES, President.

WM. A. BALDWIN, Vice-President.

LEWIS K. DODD, Cashier.

Bloomfield National Bank,

No. 1 Broad St., Bloomfield Centre.

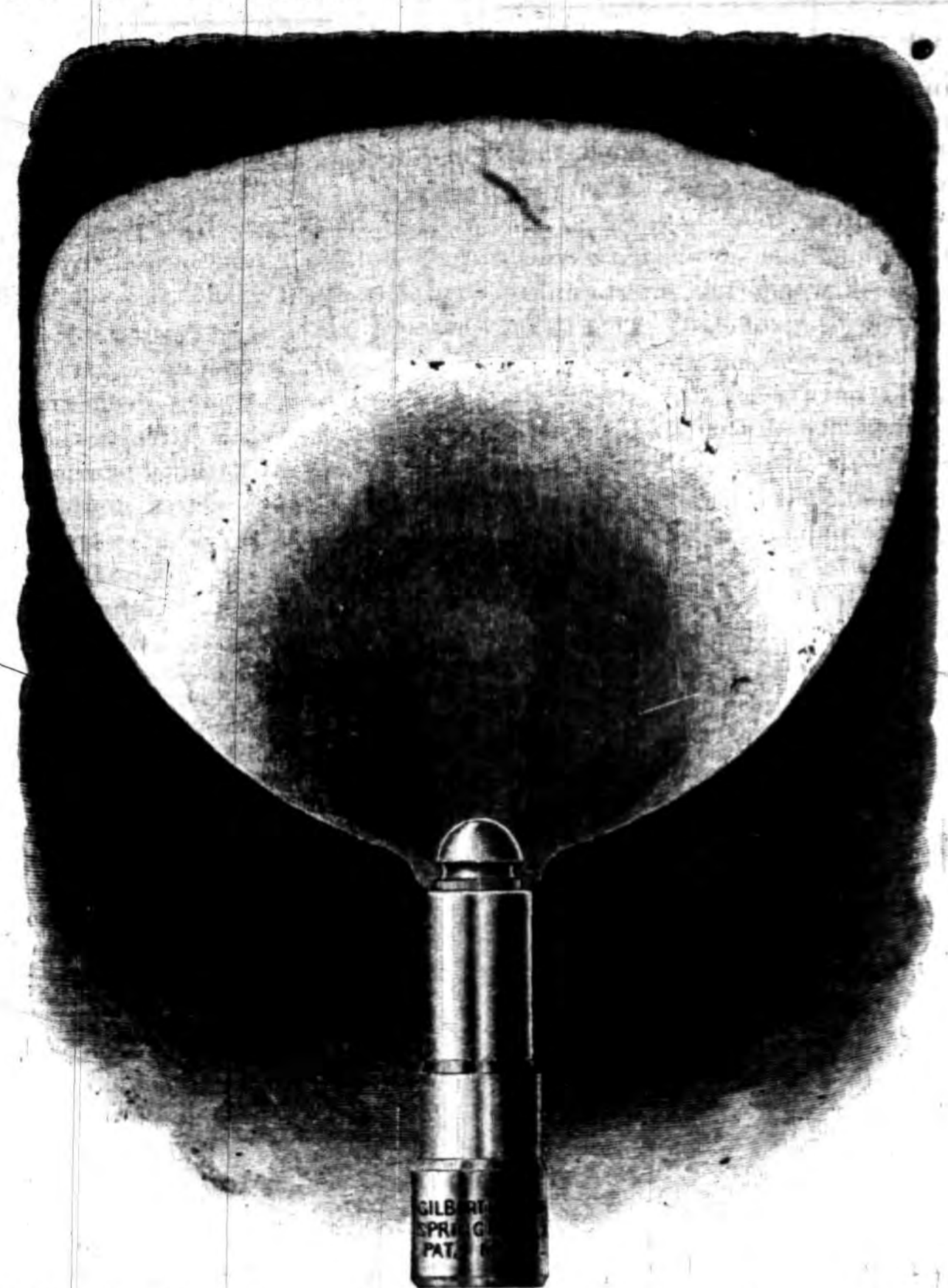
CAPITAL, \$50,000.

SURPLUS, \$10,000.

Transacts a general banking business. Solicits the accounts of corporations and individuals and promises prompt service and careful attention. Sells drafts on Great Britain, Ireland, France, Germany and other countries. Issues Letters of Credit available in the principal cities of the world.

DIRECTORS.
Thomas Oakes, Willard Richards, Robert S. Radd, Henry K. Benson,
James C. Beach, Halsey M. Barrett, J. P. Schorr, Leonard Richards,
G. Lee Stout, Edward G. Ward, Henry P. Dodd, Polhemus Lyon,
William A. Baldwin, William Colfax, Lewis K. Dodd.

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Ice Cream and Ices,

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Wholesale and Retail Grocers,

BLOOMFIELD CENTRE,

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Fancy Creamery and Dairy Butter.

Fine Teas and Coffees a Specialty.

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